

IN THE CLAIMS:

1. (Currently Amended) A broadcasting apparatus that broadcasts a specific program to which a reproduction time period between a starting time and a finishing time is specified, the reproduction being performed by a receiving apparatus, the broadcasting apparatus comprising:

allotment means for allotting a broadcasting bandwidth for the reproduction time period to the specific program and allotting a part of the broadcasting bandwidth for a preceding time period immediately before the reproduction time period to the specific program and the other part of the broadcasting bandwidth to another program; and

transmission means, in accordance with the result of allotment by the allotment means, for (a) repeatedly transmitting program data of the other program while transmitting program data of the specific program in the preceding time period, and (b) repeatedly transmitting the program data of the specific program in the reproduction time period,

wherein the transmission means further transmits a normal program that includes a video stream and an audio stream,

the specific program has the program data that relates to a commercial message which is inserted in the normal program, and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

2. (Original) The broadcasting apparatus of Claim 1,

wherein the allotment means allots the broadcasting bandwidth for the preceding time period so that the part of the broadcasting bandwidth becomes narrower than the other part of the broadcasting bandwidth, and

the preceding time period is longer than a time period that is necessary for transmitting the program data of the specific program at least once using the part of the bandwidth.

3. (Original) The broadcasting apparatus of Claim 1, further comprising:

generation means for (a) generating a first instruction that instructs the receiving apparatus to store the program data of the specific program in a storing unit in the receiving apparatus, and (b) generating a second instruction that instructs the receiving apparatus to reproduce the program data in case that the program data of the specific program has been stored in the storing unit,

wherein the transmission means transmits a plurality of the first instructions in the preceding time period and transmits the second instruction at the starting time of the reproduction time period.

4. (Original) The broadcasting apparatus of Claim 1, further comprising:

storage means for storing as the program data of the specific program (a) first contents data that makes up the specific program and (b) second contents data that is different from the first contents data in part,

wherein the transmission means transmits the first contents data in the preceding time period and transmits the second contents data in the reproduction time period of the specific program.

5. - 8. (Cancelled)

9. (Currently Amended) A broadcasting apparatus that transmits a data broadcasting program and a first and a second specific programs which are inserted in the data broadcasting program, the broadcasting apparatus comprising:

allotment means for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting a part of the broadcasting bandwidth to the first and the second specific programs and the other part of the broadcasting bandwidth to the data broadcasting program for all of time periods other than the first and the second time periods in the total time period;

instruction generation means for generating a first storage instruction and a second storage instruction that instruct the receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit: in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct a receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit;

transmission means for repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment by the allotment means; and

control means for controlling the transmission means so as to transmit (a) a plurality of the first storage instructions before the first time period, (b) the first reproduction instruction at the starting time of the first time period, (c) a plurality of the second storage instructions before the second time period, and (d) the second reproduction instruction at the starting time of the second time period,

wherein the transmission means further transmits a normal program that includes a video stream and an audio stream,

the first specific program and the second specific program respectively have the program data that relates to a first commercial program and a second commercial program which are inserted in the normal program, and

the first time period and the second time period respectively are the same as broadcast time periods of the first commercial program and the second commercial program.

10. (Cancelled)

11. (Currently Amended) The broadcasting apparatus of Claim ~~10~~ 9, further comprising:

storage means for storing as the program data of the first specific program (a) first (contents data that makes up the first specific program and (b) second contents data that is different from the first contents data in part,

wherein the transmission means transmits the first contents data in a time period other than the first time period in the total time period, and transmits the second contents data in the first time period.

12. (Currently Amended) A broadcasting apparatus that transmits a data broadcasting program and a first and a second specific programs which are inserted in the data broadcasting program, the broadcasting apparatus comprising:

allotment means for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting (1) a broadcasting bandwidth to the data broadcasting data program in the total time period except for the first time period and the second time period, (2) a part of the broadcasting bandwidth to the first specific program for a time period preceding to the first time period in the total time period, and (3) a part of the broadcasting bandwidth to the second specific program for a time period preceding to the second time period in the total time period;

instruction generation means for generating a first storage instruction and a second storage instruction that instruct a receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct the receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit;

transmission means for repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment by the allotment means; and

control means for controlling the transmission means so as to transmit (a) a plurality of the first storage instructions before the first time period, (b) a plurality of the second storage instructions before the second time period, (c) the first reproduction instruction at the starting time of the first time period, and (d) the second reproduction instruction at the starting time of the second time period,

wherein the transmission means further transmits a normal program that includes a video stream and an audio stream,

the first specific program and the second specific program respectively have the program data that relates to a first commercial program and a second commercial program which are inserted in the normal program, and

the first time period and the second time period respectively are the same as broadcast time periods of the first commercial program and the second commercial program.

13. (Cancelled)

14. (Currently Amended) The broadcasting apparatus of Claim ~~13~~ 12, further comprising:

storage means for storing as the program data of the first specific program (a) first contents data that makes up the first specific program and (b) second contents data that is different from the first contents data in part,

wherein the transmission means transmits the first contents data in a time period preceding to the first time period in the total time period, and transmits the second contents data in the first time period.

15. (Currently Amended) A broadcasting method for broadcasting a specific program to which a reproduction time period between a starting time and a finishing time is specified, the

reproduction being performed by a receiving apparatus, the broadcasting method comprising the steps of:

an allotment step for allotting a broadcasting bandwidth for the reproduction time period to the specific program and allotting a part of the broadcasting bandwidth for a preceding time period immediately before the reproduction time period to the specific program and the other part of the broadcasting bandwidth to another program; and

a transmission step, in accordance with the result of allotment in the allotment step, for (a) repeatedly transmitting program data of the other program while transmitting program data of the specific program in the preceding time period, and (b) repeatedly transmitting the program data of the specific program in the reproduction time period,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the specific program has the program data that relates to a commercial message which is inserted in the normal program, and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

16. (Currently Amended) A broadcasting method for broadcasting a data broadcasting program and a first specific program and a second specific program which are inserted in the data broadcasting program, the broadcasting method comprising the steps of: an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting a part of the broadcasting bandwidth to the first and the second specific programs and the other part of the broadcasting bandwidth to the data broadcasting program for all of time periods other than the first and the second time periods in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct the receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct a receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period, (b) the first reproduction instruction at the starting time of the first time period, (c) a plurality of the second storage instructions before the second time period, and (d) the second reproduction instruction at the starting time of the second time period, while repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

17. (Currently Amended) A broadcasting method for broadcasting a data broadcasting program and a first specific program and a second specific program which are inserted in the data broadcasting program, the broadcasting method comprising the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting (1) a broadcasting bandwidth to the data broadcasting data program in the total time period except for the first time period and the second time period, (2) a part of the broadcasting bandwidth to the first specific program for a time period preceding to the first time period in the total time period, and (3) a part of the broadcasting bandwidth to the second specific program for a time period preceding to the second time period in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct a receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit: in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct the receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period, (b) a plurality of the second storage instructions before the second time period, (c) the first reproduction instruction at the starting time of the first time period, and (d) the second reproduction instruction at the starting time of the second time period, while repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

18. (Currently Amended) A program recording medium which is readable for a computer in a broadcasting apparatus, the broadcasting apparatus broadcasts a specific program to which a reproduction time period between a starting time and finishing time is specified, the reproduction being performed by a receiving apparatus, a computer program embodied on the program recording medium has the computer conduct the steps of:

an allotment step for allotting a broadcasting bandwidth for the reproduction time period to the specific program and allotting a part of the broadcasting bandwidth for a preceding time period immediately before the reproduction time period to the specific program and the other part of the broadcasting bandwidth to other program; and

a transmission step, in accordance with the result of allotment in the allotment step, for (a) repeatedly transmitting program data of the other program while transmitting program data of the specific program in the preceding time period, and (b) repeatedly transmitting the program data of the specific program in the reproduction time period,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the specific program has the program data that relates to a commercial message which is inserted in the normal program, and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

19. (Currently Amended) A program recording medium which is readable for a computer in a broadcasting apparatus, the broadcasting apparatus transmits a data broadcasting program and a first and a second specific programs which are inserted in the data broadcasting program, a computer program embodied on the program recording medium has the computer conduct the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting a part of the broadcasting bandwidth to the first and the second specific programs and the other part of the broadcasting bandwidth to the data broadcasting program for all of time periods other than the first and the second time periods in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct the receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct a receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have-been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period,, (b) the first reproduction instruction at the starting time of the first time period, (c) a plurality of the second storage instructions before the second time period, and (d) the second reproduction instruction at the starting time of the second time period, while repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

20. (Currently Amended) A program recording medium which is readable for a computer in a broadcasting apparatus, the broadcasting apparatus transmits a data broadcasting

program and a first and a second specific programs which are inserted in the data broadcasting program, a computer program embodied on the program recording medium has the computer conduct the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting (1) a broadcasting bandwidth to the data broadcasting data program in the total time period except for the first time period and the second-time period, (2) a part of the broadcasting bandwidth to the first specific program for a time period preceding to the first time period in the total time period, and (3) a part of the broadcasting bandwidth to the second specific program for a time period preceding to the second time period in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct a receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct the receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period, (b) a plurality of the second storage instructions before the second time period, (c) the first reproduction instruction at the starting time of the first time period, and

(d) the second reproduction instruction at the starting time of the second time period, while repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

21. (Currently Amended) A program that is readable for a computer in a broadcasting apparatus, the broadcasting apparatus broadcasts a specific program to which a reproduction time period between a starting time and finishing time is specified, the reproduction being performed by a receiving apparatus, the program has the computer conduct the steps of:

an allotment step for allotting a broadcasting bandwidth for the reproduction time period to the specific program and allotting at part of the broadcasting bandwidth for a preceding time period immediately before the reproduction time period to the specific program and the other part of the broadcasting bandwidth to other program; and

a transmission step, in accordance with the result of allotment in the allotment step, for (a) repeatedly transmitting program data of the other program while transmitting program data of the specific program in the preceding time period, and (b) repeatedly transmitting the program data of the specific program in the reproduction time period,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the specific program has the program data that relates to a commercial message which is inserted in the normal program, and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

22. (Currently Amended) A program that is readable for a computer in a broadcasting apparatus, the broadcasting apparatus transmits a data broadcasting program and a first and a second specific programs which are inserted in the data broadcasting program, the program has the computer conduct the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting a part of the broadcasting bandwidth to the first and the second specific programs and the other part of the broadcasting bandwidth to the data broadcasting program for all of time periods -other than the first and the second time periods in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct the receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct a receiving apparatus to reproduce the program data for the

first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period, (b) the first reproduction instruction at the starting time of the first time period, (c) a plurality of the second storage instructions before the second time period, and (d) the second reproduction instruction at the starting time of the second time period, while repeatedly, transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted,

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.

23. (Currently Amended) A program that is readable for a computer in a broadcasting apparatus, the broadcasting apparatus transmits a data broadcasting program and a first and a second specific programs which are inserted in the data broadcasting program, the program has the computer conduct the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the

second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting (1) a broadcasting bandwidth to the data broadcasting data program in the total time period except for the first time period and the second time period; (2) a part of the broadcasting bandwidth to the first specific program for a time period preceding to the first time period in the total time period, and (3) a part of the broadcasting bandwidth to the second specific program for a time period preceding to the second time period in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct a receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct the receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program, respectively, in case that the program data for the first specific program and the program data for the second specific program have been stored in the storing unit; and

a transmission step for transmitting (a) a plurality of the first storage instructions before the first time period, (b) a plurality of the second storage instructions before the second time period, (c) the first reproduction instruction at the starting time of the first time period, and (d) the second reproduction instruction at the starting time of the second time period, while repeatedly transmitting the program data of each of the data broadcasting program, the ~~first~~ first specific program, and the second specific program in accordance with the result of allotment in the allotment step,

wherein, in the transmission step, a normal program that includes a video stream and an audio stream is further transmitted.

the first and the second specific programs have the program data that relates to first and second commercial messages, respectively, which are inserted in the normal program,
and

the reproduction time period of the specific program is the same as a broadcast time period of the commercial message.